(2) The size of the opening of the device must be consistent with the webbing which will pass through the opening.

(b) *Testing requirements.* Dee ring and snap hook assemblies and other instruments of closure for buoyant vests must—

(1) Be tested for weathering. The Coast Guard will determine which one or more of the following tests will be used:

(i) Application of a 20 percent sodium-chloride solution spray at a temperature of 95 °F (35 °C) for a period of 240 hours in accordance with the procedures contained in method 811 of the Federal Test Method Standard No. 151.

(ii) Exposure to a carbon-arc weather-ometer for a period of 100 hours.

(iii) Submergence for a period of 100 hours in each of the following:

(*a*) Leaded gasoline.

(*b*) Gum turpentine.

(iv) Exposure to a temperature of 0° ±5 °F (−17.6 ±2.775 °C) for 24 hours; and

(2) Within 5 minutes of completion of the weathering test required by paragraph (b)(1) of this section, the assembly must be attached to a support and bear 150 pounds for an adult size and 115 pounds for a child size for 10 minutes at the ambient temperatures without breaking or distorting.

[CGD 73–130R, 39 FR 20684, June 13, 1974]

§ 160.047–4 Construction.

(a) *General.* This specification covers buoyant vests which essentially consist of a vest-cut envelope containing compartments in which are enclosed pads of buoyant material arranged and distributed so as to provide the proper flotation characteristics and buoyancy required to hold the wearer in an upright backward position with head and face out of water. The buoyant vests are also fitted with tapes, webbing, and hardware to provide for proper adjustment and close and comfortable fit to the bodies of various size wearers.

(b) *Envelope.* The envelope or cover shall be cut to the pattern shown on Dwg. No. 160.047–1, Sheet 1, for adult size, and Sheets 2 and 3 for child sizes, and sewed with seams and stitching as shown on the drawing. Three compartments shall be formed to hold the buoyant pad inserts, two front compartments and one back compartment, and reinforcing strips of the same material as the cover shall be stitched to the inside of the front compartments in way of the strap attachments as shown by the drawings. As alternate construction, the front and/or back cover panels may be made in two pieces, provided that the two pieces are joined by a double stitched seam from the top center of the neck hole to the top of the vest as shown in Section J-J of the drawings.

(c) *Pad inserts*—(1) *Forming and sealing.* The buoyant pad inserts shall each be formed from two pieces of film cut to the patterns shown by Dwg. No. 160.047–1, Sheet 4, which shall be heat-sealed tight. The heat-sealed pad seams shall show an adhesion of not less than 8 pounds when 1 inch strips cut across and perpendicular to the seams are pulled apart at a rate of separation of the clamping jaws of the test machine of 12 inches per minute.

(2) *Kapok-filled pads for Models AK–1, CKM–1, and CKS–1.* The buoyant pad inserts for Models AK–1, CKM–1, and CKS–1 buoyant vests shall be filled with kapok distributed as provided in Table 160.047–4(c)(2).

TABLE 160.047–4(C)(2)—DISTRIBUTION OF KAPOK IN BUOYANT PAD INSERTS

	Model AK–1 (minimum)	Model CKM–1 (minimum)	Model CKS–1 (minimum)
	Ounces	*Ounces*	*Ounces*
Front pad (2) (each)	5.75	3.75	2.50
Back pad	4.00	2.50	2.00
Total	15.50	10.00	7.00

(3) *Fibrous glass-filled pads for Models AF–1, CFM–1, and CFS–1.* The buoyant pad inserts for Models AF–1, CFM–1, and CFS–1 buoyant vests shall be filled with fibrous glass distributed as provided in Table 160.047–4(c)(3).

TABLE 160.047–4(C)(3)—DISTRIBUTION OF FIBROUS GLASS IN BUOYANT PAD INSERTS

	Model AF–1 (minimum)	Model CFM–1 (minimum)	Model CFS–1 (minimum)
	Ounces	*Ounces*	*Ounces*
Front pad (2) (each)	10.25	6.75	4.50
Back	7.25	4.50	3.50
Total	27.75	18.00	12.50

(4) *Displacement of buoyant pad inserts.* The volume of the finished individual heat-sealed buoyant pad inserts shall be such as to provide buoyancy as set forth in Table 160.047–4(c)(4) when tested in accordance with the method set forth in §160.047–5(e)(1), except that the pad covers shall not be slit open and the period of submergence shall be only long enough to determine the displacement of the pads.

TABLE 160.047–4(C)(4)—VOLUME DISPLACEMENT OF SEALED PADS

	Models AK–1 and AF–1	Models CKM–1 and CFM–1	Models CKS–1 and CFS–1
	Each	Each	Each
Front pads	6¼ pounds ±¼ pound	4¼ pounds ±¼ pound	2¾ pounds ±¼ pound
Back pads	4¼ pounds ±¼ pound	3¼ pounds ±¼ pound	2½ pounds ±¼ pound

(d) *Tie tapes.* The tie tapes at the neck shall finish not less than 12 inches in length for both adult and child size buoyant vests. They shall be arranged and attached to the envelope as shown by the drawings, and the free ends shall be doubled over and stitched in accordance with section H-H.

(e) *Body strap, hardware, and reinforcing tape.* The body strap, hardware, and reinforcing tape shall be arranged as shown on the drawings and attached to the envelope with the seams and stitching indicated.

(f) *Stitching.* All stitching shall be a short lock stitch conforming to Stitch Type 301 of Federal Standard No. 751, and there shall be not less than 7 nor more than 9 stitches to the inch. Both ends of the stitching forming the shoulder hinge seams and the top and bottom closing seams of the envelope shall be backstitched approximately ½ inch.

(g) *Workmanship.* Buoyant vests shall be of first-class workmanship and shall be free from any defects materially affecting their appearance or serviceability.

[CGFR 65–37, 30 FR 11581, Sept. 10, 1965]

§ 160.047–5 Inspections and tests.[1]

(a) *General.* Manufacturers of listed and labeled buoyant vests shall—

(1) Maintain quality control of the materials used, the manufacturing methods and the finished product to meet the requirements of this subpart by conducting sufficient inspections and tests of representative samples and components produced;

(2) Make available to the recognized laboratory inspector and to the Coast Guard inspector, upon request, records of tests conducted by the manufacturer and records of materials used during production of the device including affidavits from suppliers; and

(3) Permit any examination, inspection, and test required by the recognized laboratory or the Coast Guard for a listed and labeled device, either at the place of manufacture, or some other location.

(b) *Lot size and sampling.* (1) A lot consists of 500 buoyant vests or fewer.

(2) A new lot begins after any change or modification in materials used or manufacturing methods employed;

[1] The manufacturer of a personal flotation device must meet 33 CFR 181.701 through 33 CFR 181.705 which require an instruction pamphlet for each device that is sold or offered for sale for use on recreational boats.